

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A system in ~~In~~ a storage area network (SAN) ~~of the type having coupled to at least one storage device, comprising:~~

~~a digital processor in communication with the at least one storage device; one or more storage devices;~~

~~a plug-and-play manager that generates an event in response to a change in status of at least one of the storage devices~~~~[[,]]~~~~[[;]]~~

~~the improvement comprising~~

~~one or more processes executing on the digital data processor, the one or more processes referencing at least a selected one of the storage devices using a previously assigned logical identification~~~~[[,]]~~~~[[;]]~~ ~~and~~

~~at least a selected one of the processes responding to a said the event generated by the plug-and-play manager by effecting querying the storage device for information the storage device, or an interface thereto, with respect to which the event was generated, and generating from that the queried information the a logical identification for that storage device.~~

2. (Currently Amended) ~~In the SAN of claim 1, wherein~~ A system in a storage area network (SAN) coupled to at least one storage device, comprising:

a processor in communication with the at least one storage device;

a plug-and-play manager that generates an event in response to a change in status of at least one of the storage devices ~~the plug-and-play manager and generates, along with the event, a physical identification of the storage device with respect to which the event was generated~~~~[[,]]~~~~[[;]]~~

one or more processes executing on the processor, the one or more processes referencing at least a selected one of the storage devices using a previously assigned logical identification; ~~and~~

~~the further improvement wherein~~

at least a selected one of the processes responding to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process references the physical identification in effecting when querying of the storage device or an interface thereto, and wherein the selected process generates from the queried information a logical identification for that storage device.

3. (Currently Amended) ~~In the SAN~~ The system of claim 1, ~~the improvement~~ wherein the event signifies any of coupling or decoupling of the storage device with respect to which the event was generated for communication with the digital data processor.

4. (Currently Amended) ~~In the SAN of claim 1, wherein~~ A system in a storage area network (SAN) coupled to at least one storage device, comprising:
a processor in communication with the at least one storage device;
a plug-and-play manager that generates an event in response to a change in status of at least one of the storage devices and the plug-and-play manager generates, along with the event, a reference to a data structure containing data regarding the storage device with respect to which the event was generated~~[[;]][[;]]~~

one or more processes executing on the processor, the one or more processes referencing at least a selected one of the storage devices using a previously assigned logical identification;
and

the further improvement wherein

at least a selected one of the processes responding to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process parses the data contained in the object referenced by the event to determine an address of the storage device, and wherein the selected process generates from the queried information a logical identification for that storage device.

5. (Currently Amended) ~~In the SAN~~ The system of claim 4, ~~the further improvement~~ wherein the selected process references the address ~~in effecting when querying of the storage device or an interface thereto.~~

6. (Currently Amended) ~~In the SAN~~ The system of claim 5, wherein the ~~digital data~~ processor communicates with the one or more storage devices via a communications port driver, ~~the further improvement and~~ wherein the selected process queries the port driver to retrieve ~~retrieve~~ for the information based on the address.

7. (Currently Amended) ~~In the SAN~~ The system of claim 4, ~~the further improvement~~ wherein the ~~digital data~~ processor is ~~coupled for communications with one or more~~ communicates with the at least one storage devices device via a SCSI bus and via an adapter.

8. (Currently Amended) ~~In the SAN~~ The system of claim 7, ~~the further improvement~~ wherein the data contained in the object includes a name of the adapter, a port number, a path number, a target number and a logical unit number for the storage device with respect to which the event was generated.

9. (Currently Amended) ~~In the SAN~~ The system of claim 8, ~~the further improvement~~ wherein the selected process extracts from the object the port number, the path number, the target number and the LUN number of the storage device with respect to which the event was generated.

10. (Currently Amended) ~~In the SAN~~ The system of claim 9, ~~the further improvement~~ wherein the selected ~~processes process queries effects transmission of a query to the storage~~ device to retrieve SCSI inquiry data.

11. (Currently Amended) ~~In the SAN of claim 4, the further improvement~~ The system of claim 8, wherein the selected process opens a handle to the object to obtain the port number, the path number, the target number and the LUN number.

12. A storage area network (SAN), comprising:
at least one storage device, each having a physical address;
a manager, wherein the manager assigns a logical identifier to each of the storage devices;

~~at least one digital data processors~~ processor in communication with the at least one storage device and the manager ~~one or more storage devices each having a physical identifier, executing:~~

~~the digital data processor having~~ (i) a plug-n-play manager that generates an event in response to a change in status of at least one of the storage devices, the event referencing a the physical identifier address of ~~that the~~ storage device having the change in status~~[[,]]~~~~[[,]]~~

~~a manager in communication with the digital data processors, the manager assigns a logical identifier to each of the storage devices;~~

(ii) an agent ~~executing on the digital data processor~~ in communication with the manager to receive the logical identifiers~~[[,]]~~~~[[,]]~~

(iii) a process ~~executing on the digital data processor~~ that responds to a ~~said the~~ event generated by the plug-and-play manager to ~~effect querying query~~ the storage device having the physical address associated with the event, ~~or an interface to that storage device;~~ for information regarding the logical identifier of that storage device.

13. (Currently Amended) ~~The SAN of claim 12, wherein the digital data processor includes~~ A storage area network (SAN), comprising:

at least one storage device, each having a physical address;

a manager, wherein the manager assigns a logical identifier to each of the storage devices;

at least one processor in communication with the at least one storage device and the manager executing:

(i) a plug-n-play manager that generates an event in response to a change in status of at least one of the storage devices, the event referencing a the physical address of that the storage device having the change in status;

(ii) an agent in communication with the manager to receive the logical identifiers;

(iii) a process that responds to a said the event generated by the plug-and-play manager to query the storage device having the physical address associated with the event for information regarding the logical identifier of that storage device,

wherein the processor includes a communication port for communicating with the storage devices and a port driver providing a software interface to the communication port, wherein the agent ~~communicating~~ communicates the logical identifiers of the storage devices to the port driver.

14. (Original) The SAN of claim 13, wherein the event generated by the plug-n-play manager references an object containing information regarding the physical address of the storage device.

15. (Currently Amended) The SAN of claim 14, wherein the process executing on the ~~digital data processors~~ at least one processor parses the information contained in the object referenced by the plug-n-play manager to discern the physical address of the storage device.

16. (Original) The SAN of claim 15, wherein the process queries the port driver regarding logical identifier of a storage device having the physical address discerned from the object referenced by the plug-n-play manager.

17. (Original) The SAN of claim 16, wherein the port driver utilizes the logical identifiers received from the agent to determine the logical identifier of the storage device having the physical address discerned from the object referenced by the plug-n-play manager.

18. (Canceled)

19. (Canceled)

20. (New) A method, comprising:
generating, by a plug-and-play manager, generates an event in response to a change in status of at least one storage device;

referencing, by one or more processes executing on a processor in communication with the at least one storage device, one of the storage devices using a previously assigned logical identification; and

responding, by one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated and generating from the queried information a logical identification for that storage device.

21. (New) A method, comprising:

generating, by a plug-and-play manager, an event in response to a change in status of at least one storage device and a physical identification of the storage device with respect to which the event was generated;

referencing, by one or more processes executing on a processor in communication with the at least one storage device, one of the storage devices using a previously assigned logical identification; and

responding, by a selected one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process references the physical identification when querying the storage device and wherein the selected process generates from the queried information a logical identification for that storage device.

22. (New) The method of claim 21, wherein the event signifies any of coupling or decoupling of the storage device with respect to which the event was generated for communication with the digital data processor.

23. (New) A method, comprising:

generating, by a plug-and-play manager, an event in response to a change in status of at least one storage device and a reference to a data structure containing data regarding the storage device with respect to which the event was generated;

referencing, by one or more processes executing on a processor in communication with the at least one storage device, one of the storage devices using a previously assigned logical identification; and

responding, by a selected one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process parses the data contained in the object referenced by the event to determine an address of the storage device, and wherein the selected process generates from the queried information a logical identification for that storage device.

24. (New) The method of claim 23, wherein the selected process references the address when querying of the storage device.

25. (New) The method of claim 24, wherein the processor communicates with the one or more storage devices via a communications port driver, and wherein the selected process queries the port driver to retrieve the information based on the address.

26. (New) The method of claim 23, wherein the processor communicates with the at least one storage device via a SCSI bus and via an adapter.

27. (New) The method of claim 26, wherein the data contained in the object includes a name of the adapter, a port number, a path number, a target number and a logical unit number for the storage device with respect to which the event was generated.

28. (New) The method of claim 27, wherein the selected process extracts from the object the port number, the path number, the target number and the LUN number of the storage device with respect to which the event was generated.

29. (New) The method of claim 28, wherein the selected process queries the storage device to retrieve SCSI inquiry data.

30. (New) The method of claim 27, wherein the selected process opens a handle to the object to obtain the port number, the path number, the target number and the LUN number.

31. (New) A computer readable medium including code implementing a plug-and-play manager and processes executed by a processor in communication with at least one storage device to perform operations comprising:

generating, by the plug-and-play manager, an event in response to a change in status of at least one storage device;

referencing, by at least one of the processes, one of the storage devices using a previously assigned logical identification; and

responding, by one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated and generating from the queried information a logical identification for that storage device.

32. (New) A computer readable medium including code implementing a plug-and-play manager and processes executed by a processor in communication with at least one storage device to perform operations comprising:

generating, by the plug-and-play manager, an event in response to a change in status of at least one storage device and a physical identification of the storage device with respect to which the event was generated;

referencing, by at least one of the processes, one of the storage devices using a previously assigned logical identification; and

responding, by a selected one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process references the physical identification when querying the storage device and wherein the selected process generates from the queried information a logical identification for that storage device.

33. (New) The computer readable medium of claim 32, wherein the event signifies any of coupling or decoupling of the storage device with respect to which the event was generated for communication with the digital data processor.

34. (New) A computer readable medium including code implementing a plug-and-play manager and processes executed by a processor in communication with at least one storage device to perform operations comprising:

generating, by the plug-and-play manager, an event in response to a change in status of at least one storage device and a reference to a data structure containing data regarding the storage device with respect to which the event was generated;

referencing, by at least one of the processes, one of the storage devices using a previously assigned logical identification; and

responding, by a selected one of the processes, to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, wherein the selected process parses the data contained in the object referenced by the event to determine an address of the storage device, and wherein the selected process generates from the queried information a logical identification for that storage device.

35. (New) The computer readable medium of claim 34, wherein the selected process references the address when querying of the storage device.

36. (New) The computer readable medium of claim 35, wherein the processor communicates with the one or more storage devices via a communications port driver, and wherein the selected process queries the port driver to retrieve the information based on the address.

37. (New) The computer readable medium of claim 34, wherein the processor communicates with the at least one storage device via a SCSI bus and via an adapter.

38. (New) The computer readable medium of claim 37, wherein the data contained in the object includes a name of the adapter, a port number, a path number, a target number and a logical unit number for the storage device with respect to which the event was generated.

39. (New) The computer readable medium of claim 38, wherein the selected process extracts from the object the port number, the path number, the target number and the LUN number of the storage device with respect to which the event was generated.

40. (New) The computer readable medium of claim 39, wherein the selected process queries the storage device to retrieve SCSI inquiry data.

41. (New) The computer readable medium of claim 38, wherein the selected process opens a handle to the object to obtain the port number, the path number, the target number and the LUN number.